

## **FIGURE 1**

gagcccaaat cttgtgacaa aactcacaca tgcccacgt gcccagcacc tgaactctg 60  
gggggaccgt cagtcttctt ttccccccaa aacccaagg acaccctat gatctccgg 120  
acccctgagg tcacatgcgt gggtgtggaa gtgagccacy aagaccctga ggtcaagttc 180  
aactggtagc tggacggcgt ggaggtgtcat aatgttaaga caaagcccg 240  
tacaacagca cgtaccgtgt ggtcagcgtc ctcacccgtcc tgaccaggaa ctggatgaat 300  
gaaaggagt acaagtgc a ggttccaaat aaagccctcc cagccccat cgagaaacc 360  
atctccaaag ccaaagtgc gccccggagaa ccacagggtt acaccctgccc cccatccgg 420  
gtatggatgtca ccagaacca ggtcagcgtg acctggctgg tcaaaggctt ctatccacg 480  
gacatcccg tggatggaa gagaatggg cagccggaga acaactaca gaccacgct 540  
ccctgtctgg actccgtcg ctcccttcc ctctacagca agtccacgtt ggacaagagc 600  
agggtggcagc agggaaacgt ctgtcatgc tccgtatgc atgggtctt gcacaaccac 660  
taccaggaga ggaccccttc cctgtctccg ggtaaa 696

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## **FIGURE 2**

Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gln Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln Gln Arg Ser Leu Ser Pro Gly Lys

## **FIGURE 3**

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Glu Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln Gln Arg Ser Leu Ser Ile Ser Pro Gly Lys

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## FIGURE 4

ccccacacaga gcccacccgt ctcccccttg accccgctgct gaaaaaaacat tccctccaaat 60  
ggcacccctcg tgactctggg ctgcctggcc acgggtactat tcccgagcc ggtatgggt 120  
acctgggacaa caggctccct caacgggacaa actatggactt taccagccac caccctcagc 180  
ctctctggtc actatgccccat catcagcttg ctgaccgtct cgggtgcgtg ggcacaagcg 240  
atgttcacccgtt ggcgtgtggc acacactcca tgcgtccacag actgggtcgaa caacaaaacc 300  
ttcagcgctt gctccaggaa ctgcaccccg cccaccgtga agatcttaca gtgcgtctgc 360  
gacggccggc ggcacactccc cccgaccatc cagctctgtt gcgtcgcttc tgggtacacc 420  
ccaggacta tcaacatcac ctggctggag gacggggcagg tcatggacgt ggacttgccc 480  
accgccteta ccaacggcggg ggggtgagctg gcctccacac aaacgcgacgt caccctcagc 540  
cagaaggact ggtgtcaga cccgacactac acctgtccagg tcacccatca aggtcacacc 600  
tttggggacca gacccaagaat gtgtcgatg tccaaacccga gagggtgtgg cgccctaccta 660  
acccggccca ggcgggtcgaa ctgttcatc cgcacgtgc ccacgatcac ctgtctgggt 720  
gtggacccctgg caccacccaa ggggacccgtg aaccctgaccc gtgcctccggc cagttggaaat 780  
ccctgtgaacc actccacccag aaaggagggaa aacgcacggca atggcacccgtt aaccgtcagc 840  
tccacccctgc cgggtggccac cggagactgg atcgaggggg agacttacca gtgcagggtg 900  
acccacccccc acctgtcccgag ggcccttcatg cggtccacca ccaagacccgg cgcccccgggt 960  
gtgtcccccgg aagtctatgc gtttgcggacg cccggaggtggc cggggagccg ggacaaaggcc 1020  
acccctgcctt ggcgtatcca gaacttcatg ctggaggaca ttcgtgtgcgt gtgtgtgcac 1080  
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gctaccccca ataaactgtg ctgtcaga gcccacgtac acccattttt gggagccggc 1440  
aggcc 1445

## FIGURE 5

Ser Thr Gln Ser Pro Ser Val Phe Pro Leu Thr Arg Cys Cys Lys Asn Ile Pro Ser Asn Ala Thr Ser Val Thr Leu Gly Cys Leu Ala Thr Gly Tyr Phe Pro Glu Pro Val Met Val Thr Trp Asp Thr Gly Ser Leu Asn Gly Thr Thr Met Thr Leu Pro Ala Thr Thr Leu Thr Leu Ser Gly His Tyr Ala Thr Ile Ser Leu Leu Thr Val Ser Gly Ala Trp Ala Lys Gln Met Phe Thr Cys Arg Val Ala His Thr Pro Ser Ser Thr Asp Trp Val Asp Asn Lys Thr Phe Ser Val Cys Ser Arg Asp Phe Thr Pro Pro Thr Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly His Phe Pro Pro Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro Gly Thr Ile Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met Asp Val Asp Leu Ser Thr Ala Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln Ser Glu Leu Thr Leu Ser Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Cys Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr Ile Thr Cys Leu Val Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg Ala Ser Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu Lys Gln Arg Asn Gly Thr Leu Thr Val Thr Ser Thr Leu Pro Val Gly Thr Arg Asp Trp Ile Glu Gly Glu Thr Tyr Gln Cys Arg Val Thr His Pro His Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly Pro Arg Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr Pro Glu Trp Pro Gly Ser Arg Asp Lys Arg Thr Leu Ala Cys Leu Ile Gln Asn Phe Met Pro Glu Asp Ile Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro Asp Ala Arg His Ser Thr Thr Gln Pro Arg Lys Thr Lys Gly Ser Gly Phe Phe Val Phe Ser Arg Leu Glu Val Thr Arg Ala Glu Trp Glu Gln Lys Asp Glu Phe Ile Cys Arg Ala Val His Glu Ala Ala Ser Pro Ser Gln Thr Val Gln Arg Ala Val Ser Val Asn Pro Gly Lys

## FIGURE 6

Phe Thr Pro Pro Thr Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly  
Gly His Phe Pro Pro Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr  
Thr Pro Gly Thr Ile Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met  
Asp Val Asp Leu Ser Thr Ala Ser Thr Gln Glu Gly Glu Leu Ala  
Ser Thr Gln Ser Glu Leu Thr Leu Ser Gln Lys His Trp Leu Ser Asp  
Arg Thr Tyr Thr Cys Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp  
Ser Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr  
Leu Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr  
Ile Thr Cys Leu Val Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn  
Leu Thr Trp Ser Arg Ala Ser Gly Lys Pro Val Asn His Ser Thr Arg  
Lys Glu Glu Lys Gln Arg Asn Gly Thr Leu Thr Val Thr Ser Thr Leu  
Pro Val Gly Thr Arg Asp Trp Ile Glu Gly Glu Thr Tyr Gln Cys Arg  
Val Thr His Pro His Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys  
Thr Ser Gly Pro Arg Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr Pro  
Glu Trp Pro Gly Ser Arg Asp Lys Arg Thr Leu Ala Cys Leu Ile Gln  
Asn Phe Met Pro Glu Asp Ile Ser Val Gln Trp Leu His Asn Glu Val  
Gln Leu Pro Asp Ala Arg His Ser Thr Thr Gln Pro Arg Lys Thr Lys  
Gly Ser Gly Phe Phe Val Phe Ser Arg Leu Glu Val Thr Arg Ala Glu  
Trp Glu Gln Lys Asp Glu Phe Ile Cys Arg Ala Val His Glu Ala Ala  
Ser Pro Ser Gln Thr Val Gln Arg Ala Val Ser Val Asn Pro Gly Lys

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## FIGURE 7

Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Val Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asn Trp Met Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Val Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Val Gln Gly Ser Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Gln Gln Arg Ser Leu Ser Leu Ser Pro Gly Lys Val Glu Gly Gly Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Phe Thr Pro Pro Thr Val Lys Ile Leu Gln Ser Ser Cys Asp Gly Gly His Phe Pro Pro Thr Ile Gln Leu Leu Cys Leu Val Ser Gly Tyr Thr Pro Gly Thr Ile Asn Ile Thr Trp Leu Glu Asp Gly Gln Val Met Asp Val Asp Leu Ser Thr Ala Ser Thr Thr Gln Glu Gly Glu Leu Ala Ser Thr Gln Ser Glu Leu Thr Leu Ser Gln Lys His Trp Leu Ser Asp Arg Thr Tyr Thr Cys Gln Val Thr Tyr Gln Gly His Thr Phe Glu Asp Ser Thr Lys Lys Cys Ala Asp Ser Asn Pro Arg Gly Val Ser Ala Tyr Leu Ser Arg Pro Ser Pro Phe Asp Leu Phe Ile Arg Lys Ser Pro Thr Ile Thr Cys Leu Val Val Asp Leu Ala Pro Ser Lys Gly Thr Val Asn Leu Thr Trp Ser Arg Ala Ser Gly Lys Pro Val Asn His Ser Thr Arg Lys Glu Glu Lys Gln Arg Asn Gly Thr Leu Thr Val Thr Ser Thr Leu Pro Val Gly Thr Arg Asp Trp Ile Glu Gly Glu Thr Tyr Gln Cys Arg Val Thr His Pro His Leu Pro Arg Ala Leu Met Arg Ser Thr Thr Lys Thr Ser Gly Pro Arg Ala Ala Pro Glu Val Tyr Ala Phe Ala Thr Pro Glu Trp Pro Gly Ser Arg Asp Lys Arg Thr Leu Ala Cys Leu Ile Gln Asn Phe Met Pro Glu Asp Ile Ser Val Gln Trp Leu His Asn Glu Val Gln Leu Pro Asp Ala Arg His Ser Thr Thr Gln Pro Arg Lys Thr Lys Gly Ser Gly Phe Val Phe Ser Arg Leu Glu Val Thr Arg Ala Glu Trp Glu Gln Lys Asp Glu Phe Ile Cys Arg Ala Val His Glu Ala Ala Ser Pro Ser Gln Thr Val Gln Arg Ala Val Ser Val Asn Pro Gly Lys

Dose-dependent inhibition of basophil histamine release using the fusion protein GE2 (± SEM; n=3 separate donors, each in duplicate)

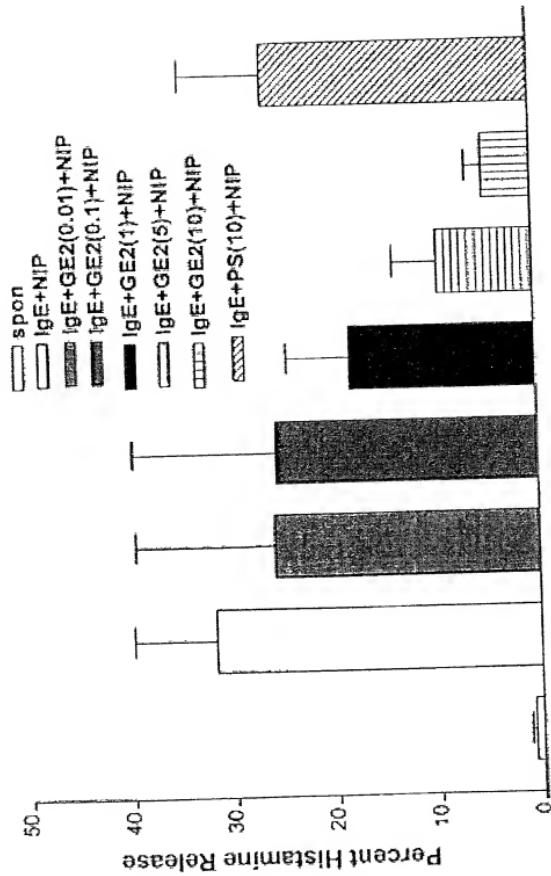
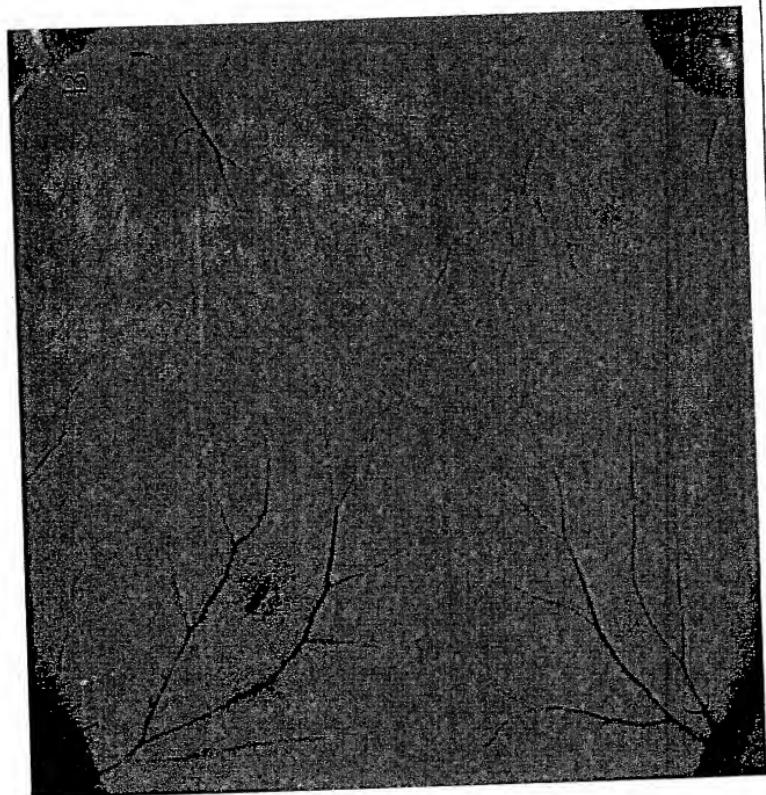


FIGURE 8

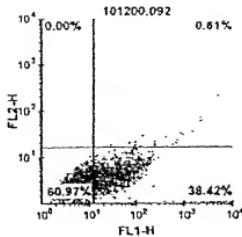
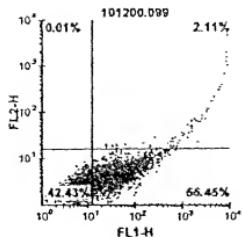
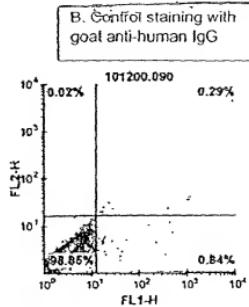
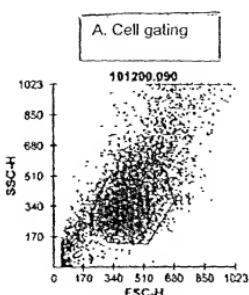
FIGURE 9-



A: 250ng human IgE-anti NP  
B: saline  
C: 250ng human IgE-anti NP+250ng CE2  
D: 250ng human IgE-anti NP+250ng PS IgE

FIGURE 10

GE2 binding to HMC-1 cells that express FcGRIIb but not FcERIa



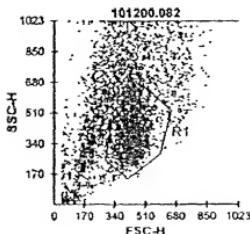
C. human IgG followed by staining with goat anti-human IgG

C. GE2 protein followed by staining with goat anti-human IgG

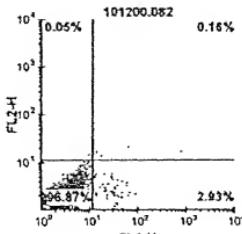
FIGURE 11

GB2 binding to 3D10 cells that express Fc $\epsilon$ RIa but not Fc $\gamma$ RIIB

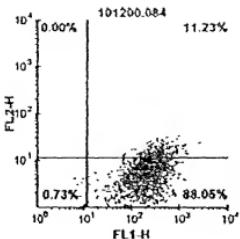
A. Cell gating on 3D10 cells which express Fc $\epsilon$ RIa but not Fc $\gamma$ RIIB



B. Staining with goat anti-human IgE alone



C. human IgE myeloma followed by staining with goat anti-human IgE



D. GB2 followed by staining with goat anti-human IgE

